

CLAIMS

We claim:

1. An inflation device for automatic inflation of a bicycle tire, the tire being rotatably mounted on an axle and including a plurality of spokes, said device including:
 - a pump assembly including a housing, said housing having an air inlet and an air outlet, a conduit being fluidly coupled to said air outlet, said housing having a first end wall, a second end wall and a peripheral wall extending between said first and second ends walls;
 - a bracket being attached to said housing and being positioned on said peripheral wall, said bracket being adapted for removably securing said housing to one of the spokes such that a secured spoke is orientated perpendicular to said first end wall;
 - an actuator being mechanically coupled to said pump assembly for selectively forcing compressed air outwardly through said air outlet, said actuator including a disc rotatably coupled to said pump assembly wherein rotation of said disc actuates said pump assembly, a rotational axis of said disc being orientated perpendicular to said first end wall of said housing;
 - a valve assembly being fluidly coupled to said conduit and being removably coupled to a valve stem of the tire; and
 - a plate being removably attached to a frame of a bicycle such that said axle extends through said plate, said plate being selectively abutted against said disc such that said disc rotates when abutting said plate and rotating around the axle.
2. The inflation device of claim 1, wherein said valve assembly includes a tubular member having first end having a female coupler

attached thereto for selectively coupling said tubular member to the valve stem, a male coupler being fluidly coupled to a second end of said tubular member for allowing air flow into said second end of said tubular member.

3. The inflation device of claim 2, said valve assembly further including a secondary inlet being fluidly coupled to said tubular member, a male coupler being attached to a free end of said secondary inlet and comprising a one-way valve for allowing air flow into said secondary inlet and into said tubular member.

4. The inflation device of claim 1, further including a lever assembly being attached said plate for selectively moving said plate in a first position abutting said disc and a second position spaced from said disc, a lever actuator being mechanically coupled to said lever assembly for actuating said lever assembly, said lever actuator being removably attached to the frame.

5. An inflation device for automatic inflation of a bicycle tire, the tire being rotatably mounted on an axle and including a plurality of spokes, said device including:

- a pump assembly including a housing, said housing having an air inlet and an air outlet, a conduit being fluidly coupled to said air outlet, said housing having a first end wall, a second end wall and a peripheral wall extending between said first and second ends walls;

- a bracket being attached to said housing and being positioned on said peripheral wall, said bracket being adapted for removably securing said housing to one of the spokes such that a secured spoke is orientated perpendicular to said first end wall;

an actuator being mechanically coupled to said pump assembly for selectively forcing compressed air outwardly through said air outlet, said actuator including a disc rotatably coupled to said pump assembly wherein rotation of said disc actuates said pump assembly, a rotational axis of said disc being orientated perpendicular to said first end wall of said housing;

a valve assembly being fluidly coupled to said conduit and being removably coupled to a valve stem of the tire, said valve assembly including a tubular member having first end having a female coupler attached thereto for selectively coupling said tubular member to the valve stem, a male coupler being fluidly coupled to a second end of said tubular member for allowing air flow into said second end of said tubular member, a secondary inlet being fluidly coupled to said tubular member, a male coupler being attached to a free end of said secondary inlet and comprising a one-way valve for allowing air flow into said secondary inlet and into said tubular member;

a plate being removably attached to a frame of a bicycle such that said axle extends through said plate, said plate being selectively abutted against said disc such that said disc rotates when abutting said plate and rotating around the axle; and

a lever assembly being attached said plate for selectively moving said plate in a first position abutting said disc and a second position spaced from said disc, a lever actuator being mechanically coupled to said lever assembly for actuating said lever assembly, said lever actuator being removably attached to the frame.